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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,208	03/27/2001	Eliot M. Case	1815 (USW 0621 PUS)	2486

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EXAMINER

WOZNIAK, JAMES S

ART UNIT PAPER NUMBER

2655

DATE MAILED: 12/01/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,208

Applicant(s)

CASE, ELIOT M.

Examiner

James S. Wozniak

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13 and 17 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 14-16, and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/27/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-10, 13 and 17** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent: 6,366,883 to Campbell et al.

With respect to **Claim 1**, Campbell suggests:

A method for converting text to concatenated voice (*speech synthesizing means for concatenating speech waveform signals, Col. 2, Lines 50-58*) by utilizing a digital voice library (*speech waveform database, Fig. 1, Element 21*) and a set of playback rules (*phoneme sequence based on dictionary and rules, Col. 8, Lines 24-25*).

The digital voice library including a plurality of voice recordings with each recording having a starting sonic feature and an ending sonic feature (*speech waveform signals (from the*

database) starting and ending points determined by prosodic and acoustic characteristics of each phoneme, Col. 6, Lines 54-66).

The method including receiving text data (*Fig. 4, Step S11*), converting the text data into a sequence of voice recordings (*Fig. 7*) in accordance with the digital voice library (*speech analyzer utilizing a speech waveform database in the process of creating a synthesized speech sequence, Col. 4, Lines 43-48*) and the set of playback rules (*phoneme sequence based on dictionary and rules, Col. 8, Lines 24-25*).

The method further comprising: generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings (*speech synthesizing means for concatenating speech waveform signals, Col. 2, Lines 50-58*).

Wherein concatenating a first recording and a second recording adjacent to the first recording includes manipulating the ending sonic feature of the first recording to determine a first recording switch point, manipulating the starting sonic feature of the second recording to determine a second recording switch point, and synchronizing the first recording switch point and the second recording switch point (*method of measuring acoustic characteristics and determining start and end points of each phoneme in the phoneme alignment process, Col. 6, Lines 54-59*).

With respect to **Claim 2**, Campbell discloses:

The method of claim 1 wherein the starting and ending sonic features of the voice recordings are classified into a number of different categories (*multiple phoneme acoustic feature types, Col. 6, Line 61-Col.7, Line 3, and Table 1*).

With respect to **Claim 3**, Campbell suggests:

The method of claim 2, wherein one of the categories is a noise (*unvoiced discriminative acoustic characteristic of a phoneme, Table 1*).

With respect to **Claim 4**, Campbell suggests:

The method of claim 2 wherein one of the categories is an impulse (*sharp discriminative acoustic characteristic of a phoneme, Table 1*).

With respect to **Claim 5**, Campbell suggests:

The method of claim 2 wherein one of the categories is a tone (*voiced discriminative acoustic characteristic of a phoneme, Table 1*).

With respect to **Claim 6**, Campbell suggests:

The method of claim 2 wherein the first recording switch point is selected based on the classification of the ending sonic feature of the first recording (*start position and speech unit duration used in the concatenation of speech waveform signals; end position of the first waveform can be determined via the speech unit duration and intuitively selected as the starting point for the next speech waveform, Col. 11, Lines 6-11*).

With respect to **Claim 7**, Campbell discloses:

The method of claim 6 wherein the second recording switch point is selected based on the classification of the starting sonic feature of the second recording (*prosodic feature parameters used for speech unit selection in the concatenation process, Col. 11, Lines 41-44*).

With respect to **Claim 8**, Campbell suggests:

The method of claim 1 wherein the starting and ending sonic features of the voice recordings are classified into a number of different categories including a noise, an impulse, and

a tone (*unvoiced, sharp, and voiced discriminative acoustic characteristics of a phoneme, Table 1*).

With respect to **Claim 9**, Campbell suggests:

The method of claim 8 wherein the ending sonic feature of the first recording is an impulse and the starting sonic feature of the second recording is an impulse (*sharp acoustic characteristic, Table 1*), and

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over Campbell

Wherein synchronizing the first recording switch point and the second recording switch point further comprises: synchronizing the impulses, and switching to and playing back the impulse and remainder of the second recording (*method of measuring acoustic characteristics and determining start and end points of each phoneme in the phoneme alignment process, Col. 6, Lines 54-59; Also it would be ^{obvious} inherent to play the impulse, which is part of the phoneme file, as well as the remainder of the second phoneme since the playback of the entire second file would be necessary to fully appreciate concatenated speech*).

With respect to **Claim 10**, Campbell suggests:

The method of claim 8 wherein the ending sonic feature of the first recording is a tone and the starting sonic feature of the second recording is a tone (*voiced acoustic characteristic, Table 1*), and

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Wherein synchronizing the first recording switch point and the second recording switch point further comprises: synchronizing the tones, and switching on peaks of the tones (*method of measuring acoustic characteristics and determining start and end points of each phoneme in the phoneme alignment process, Col. 6, Lines 54-59; Also it would be ^{obvious} inherent to align the*

phonemes on the tone peaks since those peaks are associated with the beginning and ending of each phoneme, thus the tone peaks would be aligned as the phonemes are concatenated).

With respect to **Claims 13 and 17**, Campbell suggests:

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The method of claim 8 wherein the ending sonic feature of the first recording is a tone or an impulse and the starting sonic feature of the second recording is an impulse or a tone (*sharp or voiced acoustic characteristic, Table 1*), and

Wherein synchronizing the first recording switch point and the second recording switch point further comprises: switching on a peak of the tone and on an impulse of the impulse (*method of measuring acoustic characteristics and determining start and end points of each phoneme in the phoneme alignment process, Col. 6, Lines 54-59; It would be ^{obvious} inherent to align the phonemes on the tone peaks and impulses since the peaks and impulses are associated with the beginning and ending of each phoneme, thus the tone peaks would be aligned as the phonemes are concatenated).*

Thus, Campbell anticipates the invention as recited in **Claims 1-10, 13 and 17**.

Allowable Subject Matter

4. **Claims 11, 12, 14-16, and 18-20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Prior art does not teach:

- Recording overlap and a synchronization process in which multiplexing is utilized as recited in **Claims 11, 14, and 18**.
- A switch point anywhere within the noise such that not more than fifty percent of duration of either noises is cut as recited in **Claims 12, 15, 16, 19, and 20**.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

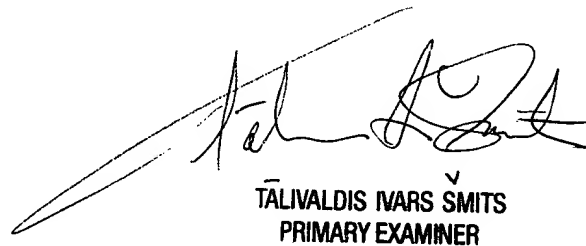
- U.S. Patent: 6,601,030 to Syrdal- teaches a recorded word concatenation system that features tonal pattern identification, boundary tones, a recording editor that marks the beginning and ending of a word, and the incorporation of silence before and after each word to be concatenated.
- U.S. Patent: 6,101,470 to Eide et al- teaches a text to speech system that utilizes a phonetic dictionary, concatenates speech based on the pitch of each phoneme, and aligns speech to text based on impulses to derive the ending times of each word.
- U.S. Patent: 5,960,395 to Tzirkel-Hancock- teaches a speech recognition device that marks the beginning of each word and utilizes a language dictionary in the speech recognition process.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (703) 305-8669. The examiner can normally be reached on Mondays-Fridays, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Ivars Smits can be reached at (703) 306-3011. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
11/19/2003



TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER